

A NEW SPECIES OF *TRIALEURODES*  
(HOMOPTERA: ALEYRODIDAE) FROM *PHLOX*

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*Abstract.* — *Trialeurodes phlogis* Russell, new species, was found on a mat-forming moss pink, *Phlox subulata* L. (Polemoniaceae), growing wild in the shale barrens of Virginia. Characters are given for separating *T. phlogis* from other species of the Abutiloneus Group of *Trialeurodes*.

*Key Words:* Aleyrodidae, Abutiloneus Group, whitefly, *Phlox*

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The whitefly *Trialeurodes phlogis* Russell, new species, was found on a mat-forming moss pink, *Phlox subulata* L. (Polemoniaceae), growing in shale barrens on Short Mountain, Virginia. Pupal cases were hidden on the underside of the small, narrow, ciliate leaves of the *Phlox* and were detected after adults had been shaken from the plants in previous seasons; earlier instars were not found.

*Trialeurodes phlogis* is of special interest because it is the second species of the Aleyrodidae to be reported from *Phlox* and indeed from the Polemoniaceae. Britton (1902) recorded the polyphagous species *Trialeurodes vaporariorum* (Westwood) from *Phlox*. He did not give the location of the plant, but it is likely that it grew in a garden or greenhouse and not in the wild.

*Trialeurodes phlogis* belongs in the Abutiloneus Group of species as defined in my treatment of North American *Trialeurodes* (Russell 1948). Definitive characters of this group are the absence of flocculent secretions, the absence of anterior marginal setae, the narrowness of marginal crenulations, the presence of only seven segments in the median area of the abdomen and the

absence of stout spines or elongate setae from the proximal area of the legs.

The specific name *phlogis* is the genitive singular of *Phlox*, the host plant of the whitefly.

*Trialeurodes phlogis* Russell,

NEW SPECIES

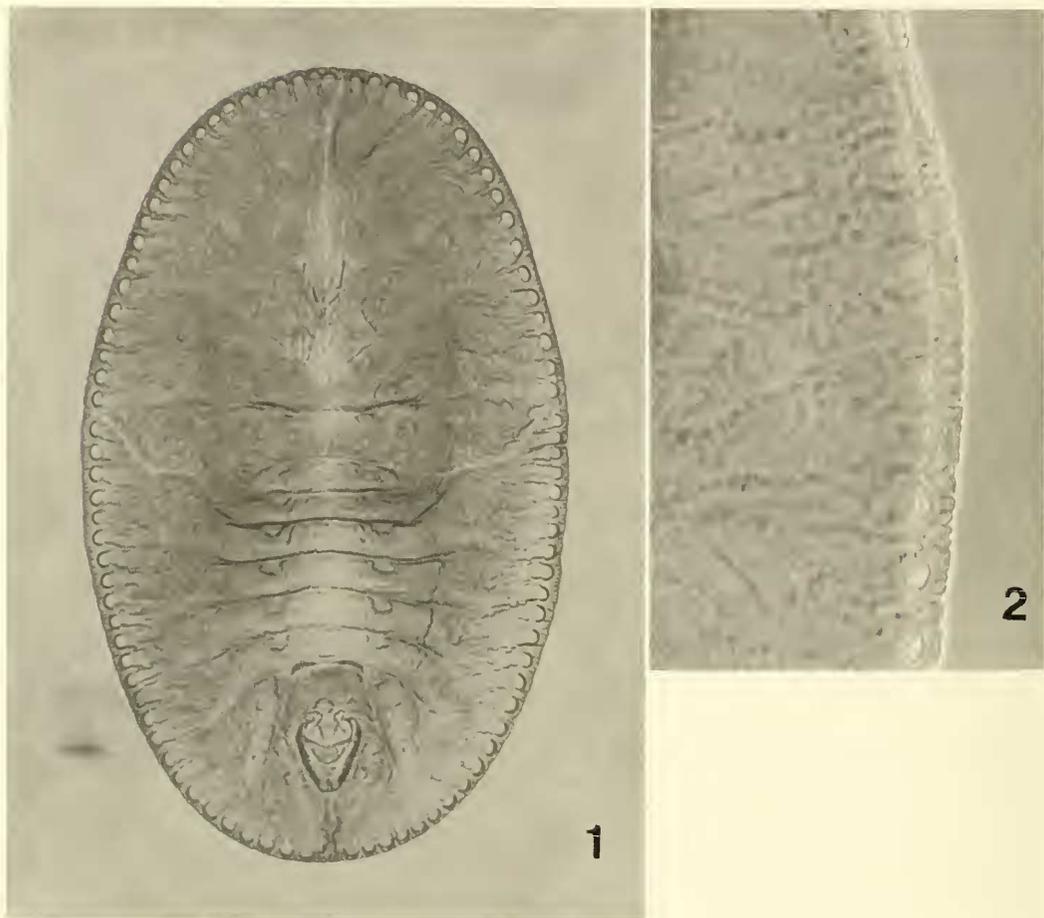
(Figs. 1-6)

Pupal case. — Living on the lower surface of leaves.

Colorless, glassy, contiguous waxy rods emanating from the body margin, as long as width of body. Dorsum and venter with a thin covering of colorless wax; a palisade of white or yellowish, translucent wax extending from the ventral submargin to the leaf.

Body elliptical in outline 0.68-0.78 mm long and 0.42-0.50 wide, females larger than males. Dorsum slightly sclerotized, entirely dark on median area, except 8th abdominal segment anterior to vasiform orifice and submarginal area of abdomen, sometimes light; venter colorless and membranous.

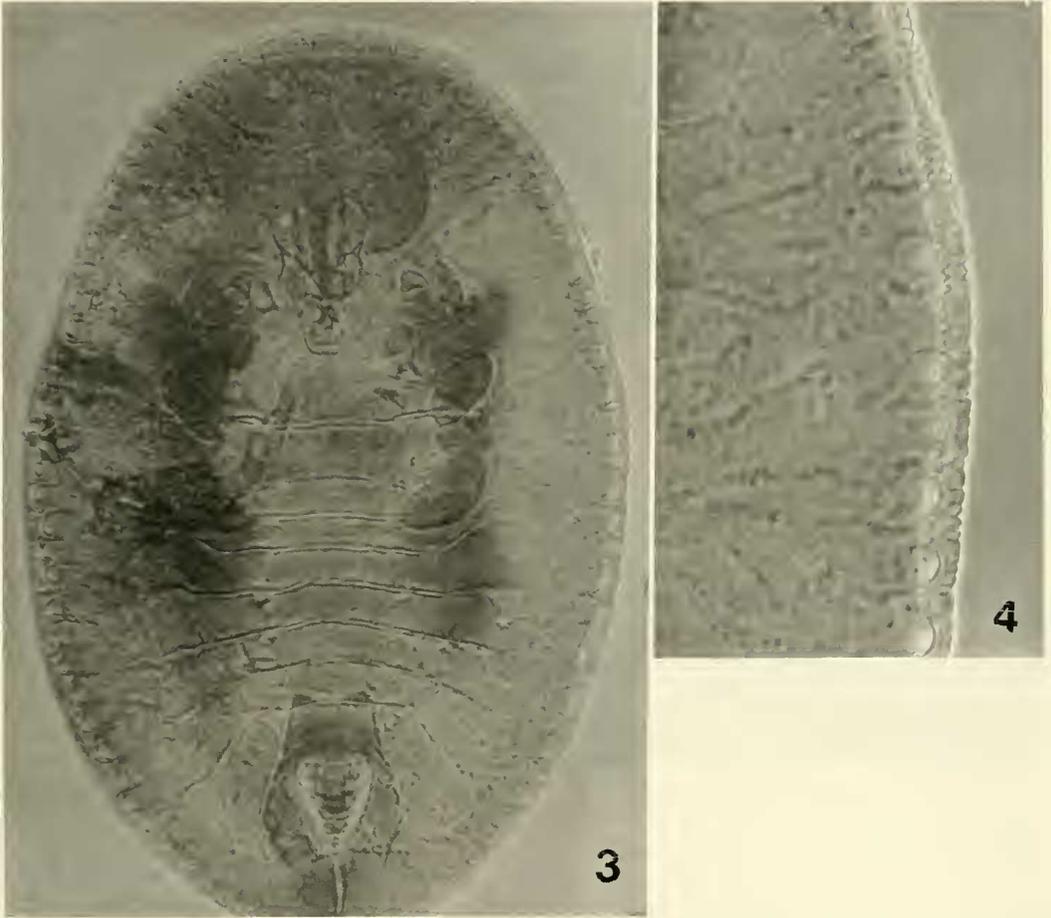
Marginal crenulations weak, slightly variable in width, approximately 20 in 100  $\mu$ . Submarginal papillae in a single row close



Figs. 1, 2. *Trialeurodes phlogis*. 1, pupal case, dorsal view; 2, section of margin and distal portion of dorsum, dorsal view.

to body margin, terminating at caudal setae, totaling 84–102; 12–15  $\mu$  long and 18–24 wide, apices broadly curved. Submarginal disk pores and porettes slightly proximad of papillae. Submarginal furrows extending proximad from between papillae, separated by broad ridges extending into subdorsum or submedian area; outer submedian area with variously directed furrows, some on abdomen often lengthwise of body; median area smooth. Pairs of disk pores and porettes arranged approximately as follows: 2 or 3 inner submedian on cephalic segment, 1 inner submarginal on each thoracic and each abdominal segment except II and VIII;

0, 1 or 2 outer submedian on cephalic segment, 1 on each thoracic and each of abdominal segments III–VII; a subdorsal pair on each of meso- and metathorax. Length of setae about as follows: cephalic, first and eighth abdominal each 6–8  $\mu$ , the last located just posterior to the widest part of the vasiform orifice; caudal usually 24–30  $\mu$  but occasionally 58; posterior marginal 12  $\mu$ . Vasiform orifice elongate cordate, 68–78  $\mu$  long and 48–58 wide, its anterior end the length of the operculum from seventh abdominal suture, its posterior end about  $\frac{1}{3}$  more than length of operculum from posterior body margin, with a median tooth at



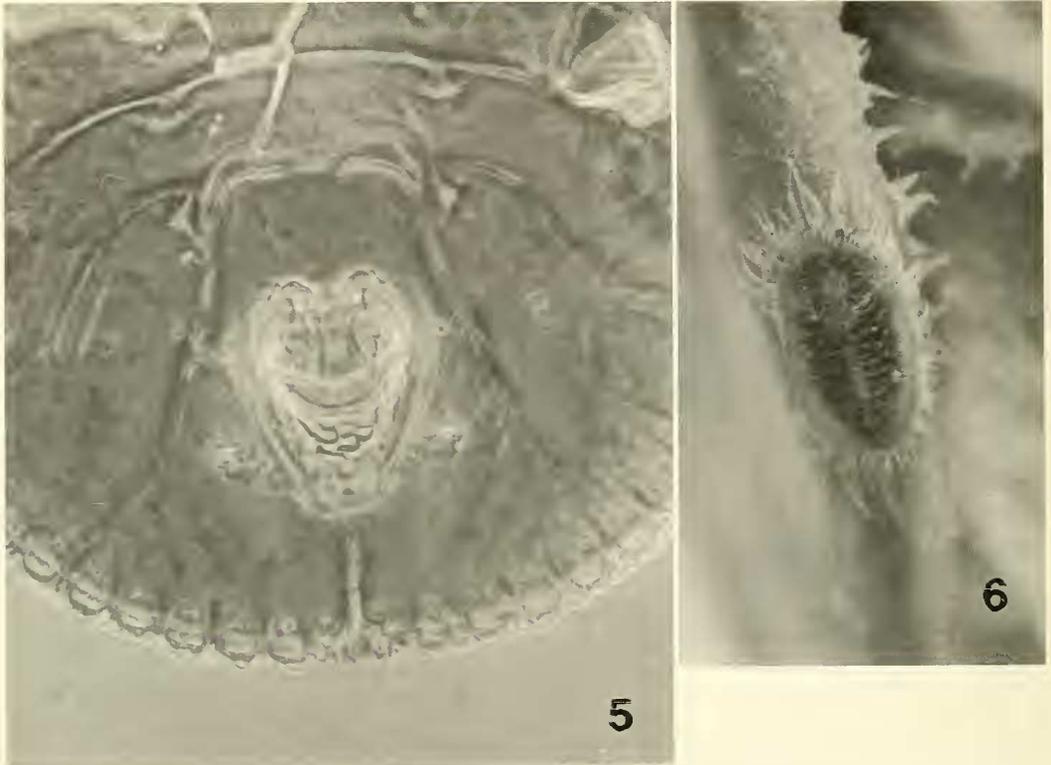
Figs. 3, 4. *Trialeurodes phlogis*. 3, pupal case, ventral view, some dorsal structures also visible; 4, section of ventral margin and distal portion of venter, wax tubes proximad of marginal crenulations, some dorsal structures also visible.

posterior end, its inner walls vertically ridged, its bottom toothed and extending  $\frac{1}{2}$  length of operculum. Operculum cordate, 42–50  $\mu$  long and 48–58 wide, curved at posterior end. Lingula slender, 44–54  $\mu$  long, its anterior 2 lobes usually covered by the operculum, its apex sometimes notched. Grooves beside posterior  $\frac{2}{3}$  of vasiform orifice extending to the narrow caudal furrow; a slight ridge distad of grooves broken near eighth abdominal setae, then continued to end of orifice; caudal ridges absent.

Ventral marginal wax tubes prominent. Ventral abdominal setae 68  $\mu$  long.

Type material.—Holotype and three paratypes mounted on slides, from *Phlox subulata* L. (Polemoniaceae), shale barrens on Short Mountain, southeast of Mt. Jackson, Shenandoah County, Virginia, 12-IV-1992, A. G. Wheeler, Jr.; seven mounted and four unmounted paratypes with same data except collected 17-IV-1991.

Discussion.—*Trialeurodes phlogis* is distinguished from other species of the *Abutiloneus* Group by characteristics of the dorsum, its predominantly dark color, light sclerotization and the sculpturing by ridges and furrows. In contrast to other species,



Figs. 5, 6. *Trialeurodes phlogis*. 5, posterior part of abdomen depicting characteristics of the vasiform orifice, tooth at end of the orifice, narrow grooves beside the orifice and the slight ridge, distad of the grooves; 6, pupal case on leaf of *Phlox*.

there is a low ridge outside the narrow groove on each side of the vasiform orifice that breaks just posterior to the widest part of the orifice near the eighth abdominal setae. *Trialeurodes phlogis* differs from species except *Trialeurodes euphorbiae* Russell (1948) in that the submarginal papillae are very close to the body margin. It differs from *T. euphorbiae* in several characteristics, most conspicuously in the narrower outline of the body, the greater length of the vasiform orifice and operculum as compared with their width, the stronger lobes of the lingula, the strong teeth in the vasiform orifice and in the termination of the row of submarginal papillae at the caudal setae.

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